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## TRANSMITTAL FORM

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Total Number of Pages in This Submission

16

Application Number

10/574,677

Filing Date

April 3, 2006

First Named Inventor

BOND

Art Unit

TBD

Examiner Name

TBD

Attorney Docket Number

8077-003-US

### ENCLOSURES (Check all that apply)

- ☐ Fee Transmittal Form
- ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☒ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53

- ☐ Drawing(s)
- ☐ Licensing-related Papers
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Michael B. Farber, Ph.D., Esq.

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PATENT  
8077-003-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Examiner: To Be Assigned
	)	
Bond	)	Group Art Unit: To Be Assigned
	)	
Serial No.: 10/574,677	)	Docket No.: 8077-003-US
	)	
Filed: April 3, 2006	)	Date Mailed: June 23, 2006
	)	
For: METHOD OF TREATING	)	
AIRWAY DISEASES WITH BETA-	)	
ADRENERGIC INVERSE AGONISTS	)	
	)	
	)	

INFORMATION DISCLOSURE STATEMENT

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Dear Sir:

This document is an Information Disclosure Statement to the above-cited patent application.

Attached is at least one form PTO/SB/08A/B listing documents believed relevant to the subject application. The submission of the following information is not intended, nor should it be construed, to constitute an admission that any patent, article, or other information referred to herein is "prior art" unless specifically designated as such. In accordance with 37 C.F.R. § 1.97(b), the filing of this information shall not be construed to mean that a search has been made or that no other material information may

exist. Neither should its submission be construed to indicate that a thorough search should not be conducted by the Examiner.

It is believe that this disclosure complies with the requirements of 37 C.F.R. § 1.96, § 1.97, and § 1.98 and the Manual of Patent Examining Procedures § 707.05(b). If for some reason the Examiner considers otherwise, it is respectfully requested that the undersigned be telephoned at (858) 450-0099 x302 so that any deficiencies can be remedied.

This Information Disclosure Statement is being submitted before the mailing date of an Office Action on the merits for the above-identified patent application. Accordingly, no fee is due for the filing of this Information Disclosure Statement under 37 C.F.R. § 1.97(b)(2).

A copy of each document is enclosed, except for issued United States patents and published United States patent applications pursuant to 37 C.F.R. § 1.98(a)(2)(ii). Some of the documents may have markings thereon. No significance is to be attached to the markings. These documents are not necessarily analogous art. Additionally, the order of the following documents is to be accorded no particular import, as the order thereof is completely fortuitous.

It is respectfully requested that these documents be: (1) fully considered by the Patent and Trademark Office during the prosecution of this application; and (2) represented on any patent which may issue on the application. Applicant respectfully requests that copies of the forms PTO/SB/08A/B, as considered and initialed by the Examiner, be returned with the next communication.

U.S. Patent No. 4,428,926 to Keith, issued on January 31, 1984.

U.S. Patent No. 4,769,372 to Kreek, issued on September 6, 1988.

U.S. Patent No. 5,116,867 to Klein et al., issued on May 26, 1992.

U.S. Patent No. 5,316,759 to Rose et al., issued on May 31, 1994.

U.S. Patent No. 5,352,680 to Portoghese et al., issued on October 4, 1994.

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U.S. Patent No. 5,585,348 to Crain et al.; issued on December 17, 1996.

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U.S. Patent No. 5,624,932 to Qin et al., issued on April 29, 1997.

U.S. Patent No. 5,767,125 to Crain et al., issued on June 16, 1998.

U.S. Patent No. 6,039,980 to Baichwal, issued on March 21, 2000.

U.S. Patent No. 6,096,756 to Crain et al., issued on August 1, 2000.

U.S. Patent No. 6,107,324 to Behan et al., issued on August 22, 2002.

U.S. Patent No. 6,140,509 to Behan et al., issued on October 31, 2000.

U.S. Patent No. 6,150,393 to Behan et al., issued on November 21, 2000.

U.S. Patent No. 6,194,382 to Crain et al., issued on February 27, 2001.

U.S. Patent No. 6,218,402 to Chalmers et al., issued on April 17, 2001.

U.S. Patent No. 6,284,800 to Broder et al., issued on September 4, 2001.

U.S. Patent No. 6,362,194 to Crain et al., issued on March 26, 2002.

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U.S. Patent Application Publication No. 2002/0137761 by Crain et al., published on September 26, 2002.

U.S. Patent Application Publication No. 2004/0249416 by Yun et al., published on December 9, 2004.

U.S. Patent Application Publication No. 2005/0021092 by Yun et al., published on January 27, 2005.

PCT Patent Publication No. WO 98/38985 by Matsumori, published on September 11, 1998.

PCT Patent Publication No. WO 02/24198, by Bond, published on March 28, 2002.

PCT Patent Publication No. WO 02/036591 by Drechsel et al. (Boehringer Ingelheim), published on May 10, 2002, which discloses a propellant-free inhalation formulation of tiotropium bromide or tiotropium bromide monohydrate, which is dissolved in water or in a mixture consisting of water and ethanol, and to propellant-free aerosols resulting from the formulation. The formulation can be used for asthma or for chronic obstructive pulmonary disease.

PCT Patent Publication No. WO 04/110551 by Yun et al., published on December 23, 2004.

A publication, R.A. Bond et al., "Effects of Chronic Treatment with  $\beta$ -Adrenoceptor Antagonist and Inverse Agonists on a Murine Model of Asthma," FASEB J. 17: Abstract No. 142.8 (2003).

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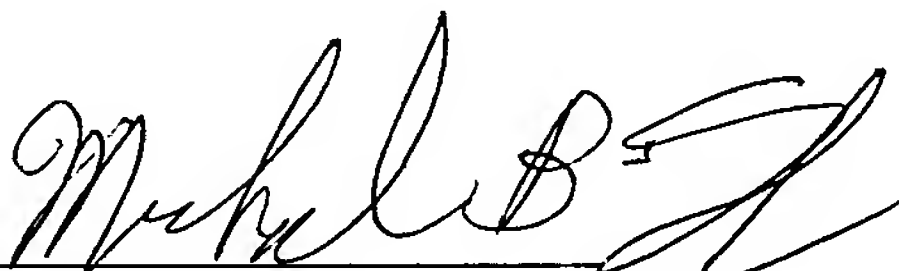
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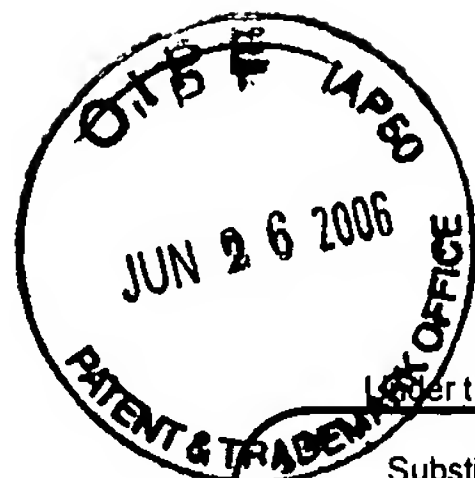
A publication, "Interleukin-10 Regulation in Normal Subjects and Patients with Asthma," J. Allerg. Clin. Immunol. 97: 1288-1296 (1996).

Respectfully submitted,

Date: June 23, 2006

  
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 1

of 3

**Complete if Known**

Application Number	10/574,677
Filing Date	April 3, 2006
First Named Inventor	BOND
Art Unit	TBD
Examiner Name	TBD
Attorney Docket Number	8077-003-US

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 4,428,926	01-31-1984	KEITH	
		US- 4,769,372	09-06-1988	KREEK	
		US- 5,116,867	05-26-1992	KLEIN et al.	
		US- 5,316,759	05-31-1994	ROSE et al.	
		US- 5,352,680	10-04-1994	PORTOGHESE et al.	
		US- 5,472,943	12-05-1995	CRAIN et al.	
		US- 5,580,876	12-03-1996	CRAIN et al.	
		US- 5,585,348	12-17-1996	CRAIN et al.	
		US- 5,597,699	01-28-1987	LANSARA	
		US- 5,624,932	04-29-1997	QIN et al.	
		US- 5,767,125	06-16-1998	CRAIN et al.	
		US- 6,039,980	04-21-2000	BAICHWAL	
		US- 6,096,756	08-01-2000	CRAIN et al.	
		US- 6,107,324	08-22-2002	BEHAN et al.	
		US- 6,140,509	10-31-2000	BEHAN et al.	
		US- 6,150,393	11-21-2000	BEHAN et al.	
		US- 6,194,382	02-27-2001	CRAIN et al.	
		US- 6,218,402	04-17-2001	CHALMERS et al.	
		US- 6,284,800	09-04-2001	BRODER et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

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Sheet 2 of 3

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		US- 6,362,194	04-26-2002	CRAIN et al.	
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		US- 6,420,541	07-16-2002	BEHAN et al.	
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		US- 2002/0094947	07-18-2002	CRAIN et al.	
		US- 2002/0137761	09-26-2002	CRAIN et al.	
		US- 2004/0249416	12-09-2004	YUN et al.	

**FOREIGN PATENT DOCUMENTS**

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Sheet	1	of	3
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**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		BOND et al., "Effects of Chronic Treatment with •-Adrenoceptor Antagonist and Inverse Agonists on a Murine Model of Asthma," FASEB J. 17: Abstract No. 142.8 (2003).	
		American Lung Association's Epidemiology and Statistics Unit, Best Practices and Program Services. Trends in Asthma Morbidity and Mortality, (2002).	
		T. CLARK & J. REES, "Practical Management of Asthma" (2d ed, Martin Dunitz, 1996), pp. 47-79, 99-139.	
		T. COSTA & A. HERZ, "Antagonists with Negative Intrinsic Activity at • Opioid Receptors Coupled to GTP-Binding Proteins," Proc. Natl. Acad. Sci. USA 86: 7321-7325 (1989).	
		R.A. DE LIGHT et al., "Inverse Agonism at G Protein-Coupled Receptors: (Patho)physiological Relevance and Implications for Drug Discovery," Br. J. Pharmacol. 130: 1-12 (2000).	
		G. MILLIGAN et al., "Inverse Agonism: Pharmacological Curiosity or Potential Therapeutic Strategy?," Trends Pharmacol. Sci. 16: 10-13 (2000).	
		Z. CALLAERTS-VEGH et al., "Effects of Acute and Chronic Administration of •-Adrenoceptor Ligands on Airway Function...", Proc. Natl. Acad. Sci. USA 101:4948-4953 (2004).	
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		R. LANSARA, "Weber's Law Modeled by the Mathematical Description of a Beam Balance," Mathematical Biosciences 122: 89-94 (1994).	
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Examiner Signature		Date Considered	
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/574,677
				Filing Date	April 3, 2006
				First Named Inventor	BOND
				Art Unit	TBD
				Examiner Name	TBD
Sheet 2	of 3	Attorney Docket Number		8077-003-US	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		L. DAEFFLER & Y. LANDRY, "Inverse Agonism at Heptahelical Receptors: Concept, Experimental Approach and Therapeutic Potential," Fundam. Clin. Pharmacol. 14: 73-87 (2000).	
		R. LANZARA, "Preventing Rapid Receptor Desensitization at the beta-1-Adrenergic..." The Chemweb Preprint Server, <a href="http://preprint.che.chemweb.com/medichem/0302002">http://preprint.che.chemweb.com/medichem/0302002</a> (2003).	
		R. LANZARA, "Desensitization of a Balance with Langmuir Binding of Weights" arXiv, <a href="http://arXiv.org/abs/physics/0303055">http://arXiv.org/abs/physics/0303055</a> (2003).	
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		S. NAGARAJA et al., "Treatment with Inverse Agonists Enhances Baseline Atrial Contractility in Transgenic Mice with...", Br. J. Pharmacol. 127:1099-1104 (1999).	

Examiner Signature		Date Considered	
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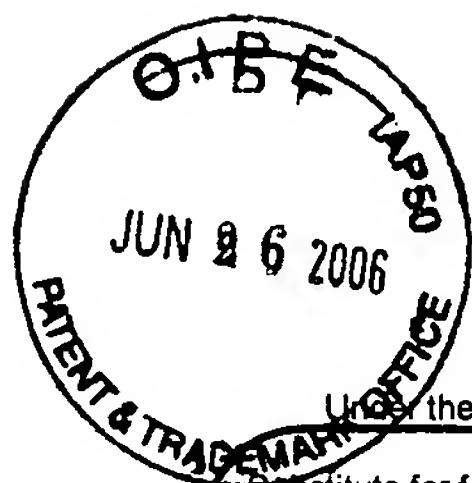
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

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Sheet	3	of	3
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		S.R. SALPETER, "Cardiovascular Effects of •-Agonists in Patients with Asthma and COPD: A Meta-Analysis," Chest 125: 2309-2321 (2004).	
		R. NEWCOMB et al., "Rebound Hyperresponsiveness to Muscarinic Stimulation After Chronic Therapy with an Inhaled Muscarinic...", Am. Rev. Respir. Dis. 132: 12-15 (1985).	
		H.J. VAN DER WOUDE et al., "Detrimental Effects of •-Blockers in COPD: A Concern for Nonselective •-Blockers," Chest 127: 818-824 (2005).	
		"Interleukin-10 Regulation in Normal Subjects and Patients with Asthma," J. Allerg. Clin. Immunol. 97: 1288-1296 (1996).	

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